National Aeronautics and Space Administration

| Education Program | |
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| Educators and Students | High School–Postdoctoral and Faculty |

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# NASA Education Programs

## High School, Graduate, Faculty, and Postdoctoral Fellowship Opportunities

*http://education.nasa.gov*

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## NASA's Education Program

NASA's vision for the future is: To improve life here, To extend life to there, To find life beyond.

The NASA mission is: To understand and protect our home planet, To explore the universe and search for life, To inspire the next generation of explorers . . . as only NASA can.

"To inspire the next generation of explorers . . . as only NASA can," is NASA's Education Program's mission and guides all of our activities and programs.

NASA's Education Program includes activities for students, teachers, faculty, and institutions. This brochure describes those programs that inspire and support students or faculty at the secondary and university level.

## NASA Summer High School Apprenticeship Research Program (SHARP and SHARP PLUS)

The Summer High School Apprenticeship Research Program (SHARP) and Summer High School Apprenticeship Research Program—PLUS (SHARP PLUS) are designed to foster interest and increase the involvement of high school students in the areas of science, mathematics, engineering, technology, and geography (SMETG), and especially those students from groups who have been traditionally underrepresented in these fields, both academically and professionally.

SHARP is a commuting program (students shall live and be enrolled in a school district within a 50-mile radius of a NASA Field Center). The SHARP program aims at establishing individual working relationships between students and NASA researchers, and at strengthening the Nation's and the Government's efforts to recruit and sustain underrepresented students in the SMETG career fields. The Program operates during the summer months for 8 weeks and involves approximately 200 students annually.

SHARP PLUS is the residential component of SHARP designed to broaden NASA's outreach efforts to include students in States and communities not served by SHARP. In contrast to SHARP, the SHARP PLUS research experiences occur in industry or in laboratories at universities. The objective of SHARP PLUS is the same as stated for SHARP. This Program also operates during the summer months and involves approximately 200 students annually. There are 15 approved college/university sites with up to 22 students at each site. NASA SHARP PLUS apprentices participate in an intensive 8-week research program at a host institution.

SHARP/SHARP PLUS exemplifies NASA's effort to establish individual mentoring relationships between students and researchers. After participating in an orientation program, the apprentices are assigned to work with a NASA Mentor or a university Principal Investigator in a specific area of science or technology. In addition to earning a salary during their apprenticeship, students are engaged in:

- Meaningful hands-on research
- Interactions with students from different racial and ethnic backgrounds
- A variety of enrichment activities that provide:
  - Opportunities to develop oral and written communications, and computer and leadership skills
  - Multicultural experiences
- Exposure to careers related to SMETG

Apprentices also learn to prepare written final reports and give oral presentations of their research.

To learn more about the SHARP and SHARP PLUS programs, visit the respective SHARP Web sites at *http://education.nasa.gov/sharp* and *http://education.nasa.gov/sharp.plus*

## Undergraduate Student Research Program (USRP)

The NASA Undergraduate Student Research Program (NASA-USRP) offers undergraduates across the United States research experiences at NASA Centers during summer and fall sessions.

The purpose of the NASA-USRP is threefold:

- To attract undergraduate students from the widest array of backgrounds who are fully representative of America's racial, ethnic, and cultural diversity, and to provide them with hands-on, challenging research experiences that stimulate continued student interest in the fields/disciplines aligned with NASA's research and development mission.

- To build a national Program Bridge from existing NASA K–12 Education Program activities to NASA Graduate School Program options that encourage and facilitate student interest in future professional opportunities with NASA and its partner organizations. Such opportunities might include NASA career employment; temporary assignment; undergraduate and graduate co-op appointment; Space Grant scholarships and fellowships; or contractor positions.

- To extend and strengthen NASA's commitment to educational excellence and university research, and to highlight the critical need to increase the Nation's undergraduate and graduate science, engineering, mathematics, and technology skill base.

The NASA-USRP seeks applications from undergraduates enrolled full time in an accredited U.S. college or university. Applicants must be rising juniors or seniors during the spring semester/quarter in which they are applying. Eligible fields of study are an academic major or demonstrated coursework concentration in engineering, mathematics, computer science, or physical/life sciences.

The NASA-USRP consists of a 10–15-week research experience at a participating NASA Center under the supervision of a NASA Technical Mentor. Selected students must be available to work 10 consecutive weeks at 40 hours per week during the summer session or 15 consecutive weeks at 40 hours per week during the fall session.

Students will receive stipends for a 10-week summer session or 15-week fall session for the research experience, plus one round-trip airfare or ground transportation to and from the NASA Host Center. A housing allowance will be provided for students at specific high-cost NASA Centers. At the completion of the research session, students must submit a paper on their NASA-USRP research experience. Students may also be asked to discuss their research in public forums and/or participate in NASA-sponsored colloquia, workshops, and technology demonstrations.

For more information or to apply, visit the USRP Web site at *http://education.nasa.gov/usrp*

## Graduate Student Researchers Program (GSRP)

The goal of the GSRP is to cultivate research ties to the academic community and to broaden the base of students pursuing advanced degrees in science and engineering.

Competitive Fellowships are awarded for one year and are renewable, based on satisfactory progress and funding, for a total of three years. This program supports approximately 300 graduate students each year. Students must be admitted to an accredited graduate program at a U.S. college or university. Students may apply at any time during their graduate career or prior to receiving their baccalaureate degree. A graduate department chair or faculty advisor must sponsor each applicant.

Each year, approximately 90 new students are selected based on competitive evaluation of their proposal and academic qualifications. Graduate research opportunities are available in a variety of areas such as Space Science, Biological and Physical Research, and Earth Sciences.

Fellows selected by NASA Headquarters conduct research at their respective universities. Some awards are distributed through NASA's Field Centers. Fellows selected by Centers must spend some period of time in residence at the Center.

Students applying for a GSRP Fellowship are encouraged to refer to the GSRP Program Announcement and contact the relevant Program Manager. U.S. citizenship is required. The deadline for applications is February 1. Awards are announced in early May.

For more information, visit the GSRP Web site at *http://education.nasa.gov/gsrp*.

## NASA Resident Research Associateship Program (RRAP)

Scientists and engineers of unusual promise and ability are afforded opportunities for research on problems, largely of their own choice, that are compatible with the research interests of NASA. The RRAP seeks to establish pathways whereby Fellows may contribute to NASA's overall research and development efforts, and to the national scientific and technological welfare of the United States.

Awardees in this program are considered to be guest investigators in NASA Field Centers. These opportunities contribute significantly to the Associates' professional development. NASA also benefits by the contributions to its research mission and by the introduction of intellectual stimulation in the research environment by the carefully selected, high-quality scholars who win the awards.

Researchers are appointed for one year and may be extended for up to three years. Competitive stipends are offered for Regular Associates who are within the first five years of the Ph.D. and Senior Associateships who are beyond the five-year period.

NASA Centers define a variety of research topics for which researchers may propose to conduct investigations. Selections are based on rigorous competition conducted independently of NASA by the National Research Council (NRC).

The program is open to U.S. citizens and to legal permanent residents. Non-U.S. citizens may submit proposals in basic science only and must be fluent in English.

Program information, applications, and deadlines are located at *http://education.nasa.gov/resident.research*

## NASA Faculty Fellowship Program (NFFP)

The NFFP provides opportunities for a diverse set of faculty in NASA-related disciplines to become familiar with NASA research and facilities through a Fellowship Program conducted primarily in the summer at NASA Centers.

The overarching goal of the NFFP is to use the NASA mission, facilities and human resources, and programs to provide exposure to faculty, to support the enhancement of knowledge and skills, and to provide access to NASA information in science, mathematics, technology, engineering, and geography.

In this vein, the NFFP seeks to further the professional knowledge of qualified faculty in NASA-related disciplines; stimulate an exchange of ideas between participants and NASA; enrich and refresh the research and teaching activities of the participants' institutions; contribute to the research objectives of the NASA Enterprises as implemented through the Centers; provide research interaction between the participants and NASA; and increase the participation of underserved and underutilized individuals and institutions.

The program is national in scope, incorporating the wide range of research activities within the Enterprises and the 10 NASA Field Centers. Applicants should hold full-time teaching/research appointments at a U.S.-accredited college or university, with a minimum of one year of teaching experience. The program is designed to enhance teaching and research that support the NASA research mission. This mission is reflected through the 5 Enterprises and 10 NASA Centers.

This program offers a competitive stipend, plus relocation and travel. The duration of the program is 10 contiguous weeks during the summer. Some Centers offer follow-on research opportunities, based on competition. Some Centers also encourage the participation of accompanying undergraduate or graduate students. NFFP applicants should confer with Center Advisors about these opportunities. U.S. citizenship is required for participation in the NFFP. The application deadline is mid-January, with offers announced during mid-March.

Complete program information is located at *http://education.nasa.gov/nffp/*

## The National Space Grant College and Fellowship Program (Space Grant)

NASA initiated the National Space Grant College and Fellowship Program (also known as Space Grant) in 1989. Space Grant contributes to the Nation's science and technology knowledge by funding research, education, and public service projects in aeronautics, space, and other related fields. The national network of university-based Space Grant consortia administers programs in the 50 States, the District of Columbia, and the Commonwealth of Puerto Rico.

The objectives of Space Grant are to:

- Maintain a network of affiliates with interests and capabilities in aeronautics, space, and other related fields.
- Support graduate fellowships and undergraduate scholarships.
- Encourage cooperative programs among universities, industry, and Federal, State, and local Governments.
- Encourage interdisciplinary training, research, and public service programs.
- Recruit and train U.S. citizens, especially women and underrepresented minorities, for careers in aerospace science and technology.

- Promote strong science, mathematics, and technology education from elementary through secondary levels.

Consortia membership includes colleges, universities, business and industry partners, State and local Government agencies, other Federal agencies, and nonprofit organizations. Most Space Grant student awards include a mentored research experience with university faculty or NASA scientists. Space Grant funds curriculum enhancement and faculty development programs. Member colleges and universities also administer precollege and public service Education Programs in their States. The 52 consortia have leveraged Federal funds to more than double the Space Grant budget with matching contributions from State and local sources.

For more information, consult the Space Grant Web site at *http://education.nasa.gov/spacegrant*

## NASA's Experimental Program to Stimulate Competitive Research (EPSCoR)

NASA initiated the Experimental Program to Stimulate Competitive Research (EPSCoR) in 1994. EPSCoR provides States of modest research infrastructure with funding to develop a more competitive research base within their State and member academic institutions. A total of seven Federal agencies conduct EPSCoR programs.

The goal of NASA EPSCoR is to develop academic research activities that are long-term, self-sustaining, and nationally competitive for non-EPSCoR dollars. The 20 States that are eligible to participate in the NASA EPSCoR program are Alabama, Arkansas, Connecticut, Idaho, Kansas, Kentucky, Louisiana, Maine, Mississippi, Montana, Nebraska, Nevada, North Dakota, Oklahoma, Puerto Rico, South Carolina, South Dakota, Vermont, West Virginia, and Wyoming.

The NASA EPSCoR research projects are closely related to one of NASA's five Strategic Enterprises: Aerospace Technology, Biological and Physical Research, Earth Science, Human Exploration and Development of Space, and Space Science. The EPSCoR investigators collaborate with NASA's field installations and program offices.

NASA EPSCoR fosters interdisciplinary cooperation among departments, across institutions, with State and local Government, and with business and industry. In addition to strengthening the research base of the State's academic institutions, EPSCoR outcomes include the transfer of developed technology to industry, the increased economic development of the participating States, and the communication of the benefits of research to the public. The NASA EPSCoR States emphasize the participation of underrepresented groups in all facets of their operations.

To learn more about the EPSCoR program, visit the EPSCoR Web site at *http://education.nasa.gov/epscor*

## NASA University Affairs Officers

To learn more about these and other educational opportunities that exist within NASA, please contact the NASA University Affairs Officer.

## National Program Manager for University Programs

Dr. Katie E. Blanding
Office of Human Resources and Education
NASA Headquarters
Washington, DC 20546
kblanding@hq.nasa.gov
(202) 358-0402

## NASA Field Centers and University Affairs Officers

## Center Mission Areas And Centers of Excellence

AMES RESEARCH CENTER
Mr. Don James
Mail Stop 204-14
NASA Ames Research Center
Moffett Field, CA 94035-1000
*djames@mail.arc.nasa.gov*
(650) 604-4967

*Aviation Operations*
*Systems and Astrobiology*
Information Technology

DRYDEN FLIGHT RESEARCH CENTER
Dr. Kajal K. Gupta
Mail Stop D2701
NASA Dryden Flight Research Center
Edwards, CA 93523
*kajal.gupta@dfrc.nasa.gov*
(661) 276-3710

*Flight Research*
Atmospheric Flight Operations

GLENN RESEARCH CENTER
Dr. Francis J. Montegani
Mail Stop 49-5
NASA Glenn Research Center
Cleveland, OH 44135
*fjm@grc.nasa.gov*
(216) 433-2956

*Aeropropulsion and Aerospace Power*
*Systems Research and Technology*
Turbomachinery

GODDARD SPACE FLIGHT CENTER
Mablelene Burrell
Mailstop 160.0
NASA Goddard Space Flight Center
Greenbelt, MD 20771
*mburrell@pop100.gsfc.nasa.gov*
(301) 286-1122

*Earth Science and Physics and Astronomy*
Earth Science and Physics and Astronomy

JET PROPULSION LABORATORY
Dr. Bill Whitney
Mail Stop 180-109
NASA Jet Propulsion Laboratory
Pasadena, CA 91109-8099
*William.M.Whitney@jpl.nasa.gov*
(818) 354-3274

*Planetary Science and Exploration and Instrument Technology*
Deep Space Systems

JOHNSON SPACE CENTER
Dr. Donn Sickorez
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NASA Johnson Space Center
Houston, TX 77058
*donn.g.sickorez1@jsc.nasa.gov*
(281) 483-4724

*Human Exploration and AstroMaterials*
Human Operations in Space

KENNEDY SPACE CENTER
Dr. Gregg Buckingham
Mail Stop XA-D1
NASA Kennedy Space Center
Kennedy Space Center, FL 32899
*Gregg.Buckingham-1@ksc.nasa.gov*
(321) 867-8777

*Space Launch Operations*
*Spaceport and Range Technologies*
Launch and Payload Processing Systems

LANGLEY RESEARCH CENTER
Mr. Roger A. Hathaway
Mail Stop 400
NASA Langley Research Center
Hampton, VA 23681-2199
*r.a.hathaway@larc.nasa.gov*
(757) 864-3312

*Airframe Systems and Atmospheric Science*
Structures and Materials

MARSHALL SPACE FLIGHT CENTER
Dr. Shelia Nash-Stevenson
Mail Code CD60
NASA Marshall Space Flight Center
Marshall Space Flight Center, AL 35812
*shelia.nash-stevenson@msfc.nasa.gov*
(256) 544-3453

*Space Transportation Systems Development*
*Microgravity and Space Optics Manufacturing Technology*
Space Propulsion

STENNIS SPACE CENTER
Dr. Ramona Pelletier Travis
Mail Code FA00
NASA Stennis Space Center
Stennis Space Center, MS 39529
*ramona.travis@ssc.nasa.gov*
(228) 688-3832

*Rocket Propulsion Testing and Commercial Remote Sensing*
Rocket Propulsion Testing Systems

## NASA's Education Resources

NASA's Education Home Page: NASA's Education Home Page serves as a cyber-gateway to information regarding educational programs and services offered by NASA for educators and students across the United States. This high-level directory of information provides specific details and points of contact, by State, for all of NASA's educational efforts and Field Center offices.

The NASA Education Resource Center Network (ERCN): Through the NASA Educator Resource Center Network (ERCN), NASA provides expertise and facilities to help educators access and utilize science, mathematics, and technology instructional products aligned with national standards and appropriate State frameworks and based on NASA's unique mission and results.

The ERCN provides educators with demonstrations of educational technologies such as NASA Spacelink, NASA Television, and the NASA Education Home Page. ERCs also provide inservice and preservice training utilizing NASA instructional products. Educators have the opportunity to preview, copy, and/or receive NASA instructional products.

NASA Spacelink: NASA Spacelink is one of NASA's electronic resources specifically developed for the educational community where educators can download NASA educational products. Spacelink is also host to the NASA TV Education file schedule.

NASA CORE: For information about multimedia products available for a minimal charge, visit the Central Operations of Resources for Educators (CORE) Web site.

Join the NASA Spacelink EXPRESS mailing list to receive announcements of new NASA materials and opportunities for educators.

For information on accessing any of these resources, visit the following Web sites:
NASA Education Home Page: *http://education.nasa.gov*
ERCN: *http://education.nasa.gov/ercn*
Spacelink: *http://spacelink.nasa.gov*
NASA TV: *http://spacelink.nasa.gov/education.file*
NASA CORE: *http://core.nasa.gov*
Spacelink EXPRESS: *http://spacelink.nasa.gov/express*

NASA Strategic Enterprises

## For more information:

For more information about NASA and its programs, visit *http://www.nasa.gov*

NASA's mission and goals are implemented through its Strategic Enterprises. The links below will take you to the home page for each Enterprise.

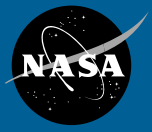
Aerospace Technology, Code R
*http://www.aero-space.nasa.gov*

Biological and Physical Research, Code U
*http://spaceresearch.nasa.gov*

Earth Science, Code Y
*http://earth.nasa.gov*

Human Exploration and Development of Space (HEDS), Code M
*http://spaceflight.nasa.gov*

Space Science, Code S
*http://spacescience.nasa.gov*

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